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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,454	11/28/2003	Sang H. Ahn	008472/DSM/BCVD	9910

7590 03/03/2005

PATENT COUNSEL
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EXAMINER

LE, HOA VAN

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/724,454

Applicant(s)

AHN ET AL.

Examiner

Hoa V. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-40 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

This application is up for consideration.

- A. In view of the complexity of the claims as set up. This Office action is made.
- B. Claims 1-29 are generic to a plurality (more than a reasonable number of about several (4-7)) of disclosed patentably distinct species comprising: many types of controlling steps, processes and chemical substances of (1) plasma enhanced CVD, (2) DARC, (3) carbon, (4) silicon, (5) germanium, (6) inorganic DARC, (7) RF power, (8) microwave and RF power, (9) plasma being DARC, (10) plasma being hydrogen, (11) plasma being helium, (12) capping layer being silicon, (13) capping layer being alpha carbon and (14) alpha silicon. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for an initiation of a search, even though this requirement is traversed.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

- C. Restriction to one of the following inventions is required under 35 U.S.C. 121:
- I. Claims 1-29, drawn to a method of reducing the risk of detachment .during development .using a fluid developer, classified in class 430, subclass 434.

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- II. Claims 30-38, drawn to a method of reducing photoresist poisoning by using a plasma treatment, classified in class 438, subclass 513. If applicants elect this invention, the application may have to be transferred to be examiner by a qualified examiner in the art.
- III. Claim 39, drawn to a method of reducing photoresist poisoning by using PECVD deposition of capping film of alpha silicon being patentably different and distinct from that in the invention of Group II above, classified in class 438, subclass 563. If applicants elect this invention, the application may have to be transferred to be examined by a qualified examiner in the art.
- IV. Claim 40, drawn to a method of reducing photoresist poisoning by using PECVD deposition of capping film of alpha carbon being patentably different and distinct from that in the inventions of Group II and Group III above, classified in class 438, subclass 562. If applicants elect this invention, the application may have to be transferred to be examined by a qualified examiner in the art.

The inventions of Groups I, II, III and VI are all related to the methods but have the patentably different and distinct processing steps have acquired the separate status and searches in the art and can be supported the separate patents as divided by applicants. Restriction for examination as indicated is proper. Applicant should show or provide an evidence to the contrary. In the absence of convincing evidence, the restriction would not be removed.

Because these inventions are distinct for the reasons given above and have acquired the separate status and searches in the art and can be supported the separate

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patents as divided by applicants. Restriction for examination purposes as indicated is proper. Applicant should show or provide an evidence to the contrary. In the absence of convincing evidence, the restriction would not be removed.

D. An additional consideration or search for more than one invention, class or subclass in the art is burdensome. Applicant should show or provide an evidence to the contrary. In the absence of convincing evidence, the restriction would not be removed.

E. Applicant is advised that the reply to this requirement to be complete must include an election to be examined even though the requirement be traversed (37 CFR 1.143).

F. Other issues have not been considered until full and proper elections are made and resolved.

F. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa V. Le whose telephone number is 571-272-1332.

The examiner can normally be reached from 6:30 AM to 4:30 PM on Monday through Thursday and about the same time of most Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526.

Applicants may file a paper by (1) fax with a central facsimile receiving number 703-872-9306. Information regarding the status of an application may be obtained from the Patent

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Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hoa V. Le
Primary Examiner
Art Unit 1752

HVL
01 March 2005

HOA VAN LE
PRIMARY EXAMINER
